Airway Clearance Devices (for Idaho Only)

Policy Number: CS054ID.C
Effective Date: June 1, 2026

➲ Instructions for Use

Table of Contents **Page**

Related Policy

- Durable Medical Equipment, Orthotics, Medical Supplies, and Repairs/Replacements (for Idaho Only)

Application

This Medical Policy only applies to the state of Idaho, including Idaho Medicaid Plus plans.

Coverage Rationale

State-Specific Criteria

For medical necessity clinical coverage criteria for chest wall oscillation, refer to the Idaho Medicaid Provider Handbook, Provider Guidelines, Durable Medical Equipment, Prosthetics, Orthotics and Supplies: Chest Wall Oscillation Device.

Non–State-Specific Criteria

For medical necessity clinical coverage criteria for airway clearance devices other than chest wall oscillation, refer to the InterQual® Client Defined, CP: Durable Medical Equipment, Airway or Secretion Clearance Devices (Custom) - UHG.

Click here to view the InterQual® criteria.

Combination continuous positive expiratory pressure, continuous high frequency oscillation, and nebulized medication therapy devices for oscillation and lung expansion are considered unproven and not medically necessary.

Intrapulmonary percussive ventilation devices for home use are considered unproven and not medically necessary.

Medical Records Documentation Used for Reviews

Benefit coverage for health services is determined by the federal, state, or contractual requirements, and applicable laws that may require coverage for a specific service. Medical records documentation may be required to assess whether the member meets the clinical criteria for coverage but does not guarantee coverage of the services requested.

The patient's medical record must contain documentation that fully supports the medical necessity for the requested services. This documentation includes, but is not limited to, relevant medical history, physical examination, and results of pertinent diagnostic tests or procedures. Documentation supporting the medical necessity should be legible, maintained in the patient's medical record, and must be made available upon request.

Applicable Codes

The following list(s) of procedure and/or diagnosis codes is provided for reference purposes only and may not be all inclusive. Listing of a code in this policy does not imply that the service described by the code is a covered or non-covered health service. Benefit coverage for health services is determined by federal, state, or contractual requirements and applicable laws that may require coverage for a specific service. The inclusion of a code does not imply any right to reimbursement or guarantee claim payment. Other Policies and Guidelines may apply.

HCPCS Code	Description
A7021	Supplies and accessories for lung expansion airway clearance, continuous high frequency oscillation, and nebulization device (e.g., handset, nebulizer kit, biofilter)
A7025	High frequency chest wall oscillation system vest, replacement for use with patient- owned equipment, each
A7026	High frequency chest wall oscillation system hose, replacement for use with patient- owned equipment, each
E0469	Lung expansion airway clearance, continuous high frequency oscillation, and nebulization device
*E0481	Intrapulmonary percussive ventilation system and related accessories
E0483	High frequency chest wall oscillation system, with full anterior and/or posterior thoracic region receiving simultaneous external oscillation includes all accessories and supplies, each

Diagnosis Code	Description
A80.0	Acute paralytic poliomyelitis, vaccine-associated
A80.1	Acute paralytic poliomyelitis, wild virus, imported
A80.2	Acute paralytic poliomyelitis, wild virus, indigenous
A80.30	Acute paralytic poliomyelitis, unspecified
A80.39	Other acute paralytic poliomyelitis
A80.4	Acute nonparalytic poliomyelitis
A80.9	Acute poliomyelitis, unspecified
B91	Sequelae of poliomyelitis
E74.02	Pompe disease
E74.4	Disorders of pyruvate metabolism and gluconeogenesis
E84.0	Cystic fibrosis with pulmonary manifestations
E84.9	Cystic fibrosis, unspecified
G12.0	Infantile spinal muscular atrophy, type I [Werdnig-Hoffman]
G12.1	Other inherited spinal muscular atrophy
G12.21	Amyotrophic lateral sclerosis
G12.22	Progressive bulbar palsy
G12.25	Progressive spinal muscle atrophy
G12.8	Other spinal muscular atrophies and related syndromes
G12.9	Spinal muscular atrophy, unspecified
G14	Post-polio syndrome
G35.A	Relapsing-remitting multiple sclerosis
G35.B0	Primary progressive multiple sclerosis, unspecified
G35.B1	Active primary progressive multiple sclerosis
G35.B2	Non-active primary progressive multiple sclerosis
G35.C0	Secondary progressive multiple sclerosis, unspecified
G35.C1	Active secondary progressive multiple sclerosis
G35.C2	Non-active secondary progressive multiple sclerosis
G35.D	Multiple sclerosis, unspecified

Diagnosis Code	Description
G71.00	Muscular dystrophy, unspecified
G71.036	Limb girdle muscular dystrophy due to fukutin related protein dysfunction
G71.11	Myotonic muscular dystrophy
G71.20	Congenital myopathy, unspecified
G71.21	Nemaline myopathy
G71.220	X-linked myotubular myopathy
G71.228	Other centronuclear myopathy
G71.29	Other congenital myopathy
G71.3	Mitochondrial myopathy, not elsewhere classified
G71.8	Other primary disorders of muscles
G72.41	Inclusion body myositis [IBM]
G72.89	Other specified myopathies
G73.1	Lambert-Eaton syndrome in neoplastic disease
G73.3	Myasthenic syndromes in other diseases classified elsewhere
G73.7	Myopathy in diseases classified elsewhere
G80.0	Spastic quadriplegic cerebral palsy
G82.50	Quadriplegia, unspecified
G82.51	Quadriplegia, C1-C4 complete
G82.52	Quadriplegia, C1-C4 incomplete
G82.53	Quadriplegia, C5-C7 complete
G82.54	Quadriplegia, C5-C7 incomplete
J47.0	Bronchiectasis with acute lower respiratory infection
J47.1	Bronchiectasis with (acute) exacerbation
J47.9	Bronchiectasis, uncomplicated
J98.6	Disorders of diaphragm
M33.02	Juvenile dermatomyositis with myopathy
M33.12	Other dermatomyositis with myopathy
M33.22	Polymyositis with myopathy
M33.92	Dermatopolymyositis, unspecified with myopathy
M34.82	Systemic sclerosis with myopathy
M35.03	Sicca syndrome with myopathy
Q33.4	Congenital bronchiectasis
R53.2	Functional quadriplegia
Z99.11	Dependence on respirator [ventilator] status

Codes that are labeled with an asterisk (*) are not on the State of Idaho Medicaid Fee Schedule and therefore may not be covered by the State of Idaho Medicaid Program. For additional information on non-covered and excluded services, refer to the Idaho Medicaid Provider Handbook, General Information, General Information and Requirements for Providers: Non-Covered and Excluded Services.

Description of Services

Intrapulmonary percussive ventilation is a mechanized form of chest physical therapy that delivers mini bursts (more than 200 per minute) of respiratory gases to the lungs via a mouthpiece. Its purpose is to mobilize endobronchial secretions and diffuse patchy atelectasis. The individual controls variables such as inspiratory time, delivery rates, and peak pressure. Alternatively, a therapist will do a slapping or clapping of the individual's chest wall.

Combination Continuous Positive Expiratory Pressure, Continuous High-Frequency Oscillation, and Nebulized Medication Therapy Devices for Oscillation and Lung Expansion

Due to insufficient quality evidence or consistency of findings, combination continuous PEP, continuous high-frequency oscillation, and nebulized medication therapy devices for oscillation and lung expansion (OLE) are considered unproven and not medically necessary.

Main and Rand (2023) conducted a systematic review and meta-analysis to evaluate the effectiveness (in terms of respiratory function, respiratory exacerbations, and exercise capacity) and acceptability (in terms of individual preference, adherence, and quality of life) of conventional CPT (CCPT) for people with cystic fibrosis compared with alternative ACTs. The authors included randomized or quasirandomized controlled trials (including crossover design) that lasted at least 7 days and compared CCPT with alternative ACTs in people with cystic fibrosis. The primary outcomes were (1) pulmonary function tests and (2) number of respiratory exacerbations per year. The secondary outcomes were (1) quality of life, (2) adherence to therapy, (3) cost-benefit analysis, (4) objective change in exercise capacity, (5) additional lung function tests, (6) ventilation scanning, (7) blood oxygen levels, (8) nutritional status, (9) mortality, (10) mucus transport rate, and (11) mucus wet or dry weight. Outcomes were reported as short term (7-20 days), medium term (more than 20 days to up to 1 year), and long term (over 1 year). A total of 21 (778 individuals) studies comprising seven short-term, eight medium-term, and six long-term studies were included. Studies were conducted in the US (10), Canada (five), Australia (two), the UK (two), Denmark (one), and Italy (one), with a median of 23 individuals per study (range, 13-166 individuals). Individuals' ages ranged from newborns to 45 years; most studies only recruited children and young people. Sixteen studies reported the sex of individuals (375 male; 296 female). Most studies compared modifications of CCPT with a single comparator, but two studies compared three interventions, and another compared four interventions. The interventions varied in the duration of treatments, times per day, and periods of comparison, making meta-analysis challenging. All evidence was very low certainty. Overall, 19 studies reported the primary outcomes of FEV_1 and FVC and found no difference in change from baseline in FEV_1 percent predicted or rate of decline between groups for either measure. Most studies suggested equivalence between CCPT and alternative ACTs, including PEP, extrapulmonary mechanical percussion, ACBT, O-PEP devices, autogenic drainage, and exercise. Where single studies suggested superiority of one ACT, these findings were not corroborated in similar studies; pooled data generally concluded that the effects of CCPT were comparable to those of alternative ACTs. Regarding CCPT vs PEP, the authors are uncertain whether CCPT improves lung function or has an impact on the number of respiratory exacerbations per year compared with PEP (both very low-certainty evidence). There were no analyzable data for secondary outcomes, but many studies provided favorable narrative reports on the independence achieved with PEP mask therapy. Regarding CCPT vs extrapulmonary mechanical percussion, the authors are uncertain whether CCPT improves lung function compared with extrapulmonary mechanical percussions (very low-certainty evidence). The annual rate of decline in average forced expiratory flow between 25% and 75% of FVC (FEF_{25-75}) was greater with high-frequency chest compression than CCPT in medium- to long-term studies, but there was no difference in any other outcome. Regarding CCPT vs ACBT, the authors are uncertain whether CCPT improves lung function compared with ACBT (very low-certainty evidence). The annual decline in FEF_{25-75} was worse in individuals who were using the forced expiration technique component of ACBT only [mean difference (MD), 6.00; 95% CI, 0.55-11.45; one study, 63 individuals; very low-certainty evidence]. One short-term study reported that directed coughing was as effective as CCPT for all lung function outcomes but with no analyzable data. One study found no difference in hospital admissions and days in hospital for exacerbations. Regarding CCPT vs O-PEP, the authors are uncertain whether CCPT improves lung function compared with O-PEP devices (Flutter device and IPV); however, only one study provided analyzable data (very low-certainty evidence). No study reported data for the number of exacerbations. There was no difference in results for the number of days in hospital for an exacerbation, number of hospital admissions, and number of days of intravenous antibiotics; this was also true for other secondary outcomes. Regarding CCPT vs autogenic drainage, the authors are uncertain whether CCPT improves lung function compared with autogenic drainage (very low-certainty evidence). No studies reported the number of exacerbations per year; however, one study reported more hospital admissions for exacerbations in the CCPT group (MD, 0.24; 95% CI, 0.06-0.42; 33 individuals). One study provided a narrative report of a preference for autogenic drainage. Regarding CCPT vs exercise, the authors are uncertain whether CCPT improves lung function compared with exercise (very low-certainty evidence). An analysis of original data from one study demonstrated a higher FEV_1 percent predicted (MD, 7.05; 95% CI, 3.15-10.95; p = 0.0004), FVC (MD, 7.83; 95% CI, 2.48-13.18; p = 0.004), and FEF_{25-75} (MD, 7.05; 95% CI, 3.15-10.95; p = 0.0004) in the CCPT group; however, the study reported no difference between groups (likely because the original analysis accounted for baseline differences). The authors concluded that they are uncertain whether CCPT has a more positive impact on respiratory function, respiratory exacerbations, individual preference, adherence, quality of life, exercise capacity, and other outcomes compared with alternative ACTs, as the certainty of the evidence is very low. There was no advantage in respiratory function of CCPT over alternative ACTs, but this may reflect insufficient evidence

rather than real equivalence. Narrative reports indicated that individuals prefer self-administered ACTs. This review is limited by a paucity of well-designed, adequately powered, long-term studies. This review cannot yet recommend any single ACT above others; physiotherapists and people with cystic fibrosis may wish to try different ACTs until they find an ACT that suits them best.

Morrison and Milroy (2020) conducted a systematic review and meta-analysis to identify whether oscillatory devices, oral or chest wall, are effective for mucociliary clearance and whether they are equivalent or superior to other forms of airway clearance in the successful management of secretions in people with cystic fibrosis. Search criteria included RCTs and controlled clinical studies of oscillating devices compared with any other form of physiotherapy in people with cystic fibrosis. Single-treatment interventions (therapy technique used only once in the comparison) were excluded. Two authors independently applied the inclusion criteria to publications, assessed the quality of the included studies, and assessed the evidence using GRADE (Grading of Recommendations Assessment, Development, and Evaluation). The searches identified 82 studies (330 references); 39 studies (total of 1,114 individuals) met the inclusion criteria. Studies varied in duration from up to 1 week to 1 year; 20 of the studies were crossover in design. The studies also varied in type of intervention and the outcomes measured; data were not published in sufficient detail in most of these studies, so meta-analysis was limited. Few studies were considered to have a low risk of bias in any domain. It is not possible to blind individuals and clinicians to physiotherapy interventions, but 13 studies did blind the outcome assessors. The quality of the evidence across all comparisons ranged from low to very low. FEV_1 was the most frequently measured outcome, and while many of the studies reported an improvement in those people using a vibrating device compared with before the study, there were few differences when comparing the different devices to each other or to other ACTs. One study identified an increase in frequency of exacerbations requiring antibiotics while using HFCWO compared with PEP (low-quality evidence). There were some small but significant changes in secondary outcome variables such as sputum volume or weight but not wholly in favor of oscillating devices, and due to the low- or very low-quality evidence, it is not clear whether these were due to the particular intervention. Individuals' satisfaction was reported in 13 studies but again with low- or very low-quality evidence and not consistently in favor of an oscillating device, as some individuals preferred breathing techniques or techniques used prior to the study interventions. The results for the remaining outcome measures were not examined or reported in sufficient detail to provide any high-level evidence. The authors concluded that there was no clear evidence that oscillation was a more or less effective intervention overall than other forms of physiotherapy; furthermore, there was no evidence that one device was superior to another. The findings from one study that showed an increase in the frequency of exacerbations requiring antibiotics while using an oscillating device compared with PEP may have significant resource implications. More adequately powered, long-term RCTs are necessary, and the outcomes measured should include frequency of exacerbations, individual preference, adherence to therapy, and general satisfaction with treatment. Increased adherence to therapy may then lead to improvements in other parameters, such as exercise tolerance and respiratory function. Additional evidence is needed to evaluate whether oscillating devices combined with other forms of airway clearance are efficacious in people with cystic fibrosis. There may also be a requirement to consider the cost implication of devices over other forms of equally advantageous ACTs. Using the GRADE method to assess the quality of the evidence, we judged this to be low or very low quality, which suggests that further research is very likely to have an impact on confidence in any estimate of effect that is generated by future interventions.

Huynh et al. (2019) conducted a multicenter, nonrandomized, prospective study to examine the impact of OLE therapy using continuous high-frequency oscillation and continuous PEP on postoperative pulmonary complications (PPCs) in high-risk participants. In stage I, Current Procedural Terminology and International Classification of Diseases codes were queried for participants (n = 210) who were undergoing thoracic, upper abdominal, or aortic open procedures at three institutions from December 2014 to April 2016. Participants were selected randomly. Age, comorbidities, American Society of Anesthesiologists Physical Status Classification scores, and PPC rates were determined. In stage II, 209 participants were enrolled prospectively from October 2016 to July 2017 using the same criteria. Stage II participants received OLE treatment and standard respiratory care. The PPCs rate [prolonged ventilation, high-level respiratory support, pneumonia, and intensive care unit (ICU) readmission] was compared. The authors also compared ICU length of stay, hospital length of stay, and mortality using t tests and analysis of covariance. Data are mean ±SD. There were 419 participants. Stage II participants were older (61.1 ±13.7 years vs 57.4 ±15.5 years; $p < 0.05$) and had higher American Society of Anesthesiologists scores. Treatment with OLE decreased PPCs from 22.9% (stage I) to 15.8% (stage II) ($p < 0.01$ adjusted for age, American Society of Anesthesiologists score, and operation time). Similarly, OLE treatment reduced ventilator time (23.7 ±107.5 hours to 8.5 ±27.5 hours; $p < 0.05$) and hospital length of stay (8.4 ±7.9 days to 6.8 ±5.0 days; $p < 0.05$). No differences in ICU length of stay, pneumonia, or mortality were observed. The authors concluded that aggressive treatment with OLE reduces PPCs and resource use in high-risk surgical individuals. Well-designed, adequately powered, prospective, controlled clinical trials in combination OLE treatment are needed to further describe safety and clinical efficacy.

Intrapulmonary Percussive Ventilation

There is insufficient quality evidence or consistency of findings to support the long-term home use of IPV devices.

In an RCT, Hassan et al. (2024) evaluated the effectiveness of IPV in nonventilated, critically ill participants, focusing on ICU length of stay, oxygenation, and pulmonary complications. A total of 106 participants with respiratory impairment were randomly assigned to either the IPV or conventional physiotherapy group, with both groups receiving two treatment sessions daily. Data from 100 participants were analyzed for outcomes, including ICU length of stay, changes in oxygenation, respiratory rate, and radiological findings. The results showed that the median ICU length of stay was significantly shorter in the IPV group (3.5 days; IQR, 1.9-5.9 days) than the conventional physiotherapy group (5.2 days; IQR, 3.4-9.9 days), with an MD of 1.56 days (95% CI, 1.2-2.1 days; p = 0.002). IPV also led to a modest improvement in peripheral oxygen saturation (MD, 0.94%; 95% CI, 0.43%-1.45%; p < 0.001) and a reduction in respiratory rate (MD, 2.1 breaths/min; 95% CI, 0.9-3.2 breaths/min; p < 0.001). No significant difference was observed in radiological atelectasis scores (p = 0.65). The authors concluded that IPV may improve clinical outcomes in critically ill individuals with respiratory impairment by reducing ICU length of stay and respiratory rate, with a small benefit in oxygenation compared with conventional physiotherapy. However, limitations of the study included the single-center design, limited generalizability, and interruptions due to the COVID-19 pandemic, which delayed study completion.

Hassan et al. (2024) conducted a scoping review to assess the clinical application of IPV and identify potential inconsistencies in practice due to limited clinical guidance. The review aimed to summarize the methods and dosages of IPV that were used by clinicians and researchers to support more standardized application. Of 514 studies screened, 25 met the inclusion criteria. The findings revealed variability in both the clinical application and prescribed dosages of IPV. Despite this, common trends were identified and synthesized to assist clinicians in implementing IPV interventions more effectively. The authors noted limitations, including the potential omission of relevant studies and incomplete evidence in included studies, which hindered the development of a comprehensive clinical guideline due to heterogeneity. Nonetheless, they concluded that the summarized IPV application and dosage practices may serve as a useful reference for clinicians and contribute to the future development of standardized clinical practice guidelines.

Hassan et al. (2021b) conducted a retrospective pilot study to evaluate the safety and feasibility of IPV intervention in nonintubated patients who were admitted to an ICU. The medical records of 35 patients were reviewed, including 22 patients who received IPV intervention and 13 patients who were matched for age, sex, and primary diagnosis and received CPT. The records were audited for feasibility, safety, changes in oxygen saturation, chest x-ray changes, and ICU length of stay. A total of 104 treatment sessions (IPV 65 and CPT 39) were delivered to patients who were admitted with a range of respiratory conditions in critical care. Patients completed 97% of IPV sessions. No major adverse events were reported with IPV intervention. ICU length of stay in the IPV group was 9.6 ±6 days, and in the CPT group, it was 11 ±9 days (p = 0.59). Peripheral oxygen saturation before to post intervention was 92% ±4 to 96% ±4 in the IPV group and 95% ±4 to 95% ±3 in the CPT group. The authors concluded that application of the IPV intervention was feasible and safe in spontaneously breathing, nonintubated adult patients in critical care. The study is limited by its retrospective observations. There is a need for an adequately powered RCT to further evaluate the effects of IPV intervention in a nonintubated population in critical care.

Hassan et al. (2021a) performed a systematic review to summarize the evidence of the effectiveness of IPV on ICU length of stay and respiratory outcomes in critically ill individuals. A systematic search of IPV in ICUs was performed on five databases from 1979 to 2021. Studies were considered for inclusion if they evaluated the effectiveness of IPV in individuals aged ≥ 16 years who were receiving invasive or noninvasive ventilation or were breathing spontaneously in critical care or high-dependency units. Study titles and abstracts were screened, followed by data extraction by a full-text review. Due to a small number of studies and observed heterogeneities in the study methodology and population of individuals, a meta-analysis could not be included in this review. Of 306 identified abstracts, seven studies (630 individuals) met the eligibility criteria. Results of the included studies provide weak evidence to support the effectiveness of IPV in reducing ICU length of stay, improving gas exchange, and reducing respiratory rate. The authors concluded that based on the findings of this review, the evidence to support the role of IPV in reducing ICU length of stay, improving gas exchange, and reducing respiratory rate is weak. The therapeutic value of IPV in airway clearance, preventing pneumonia, and treating pulmonary atelectasis requires further investigation. This study has several limitations. The number of studies retrieved was small (seven). Heterogeneities that resulted from differences in study design, population of individuals, dosage, and frequency of IPV intervention were frequently observed in the included studies. Further, small sample sizes and poor methodological quality introduced some bias and weakened the strength of conclusions of this review. Further investigation is needed before the clinical usefulness of this procedure is proven.

Nicolini et al. (2018) conducted a 4-week RCT to determine if adding IPV or HFCWO with the best pharmacological therapy (PT) will provide clinical benefit to individuals with COPD over just CPT. There was a total of 63 participants who were randomized into three groups (20 participants completed the trial in each group): IPV group (treated with PT and

IPV), PT group with (treated with PT and HFCWO), and control group (treated with PT alone). The primary outcomes that were measured were the Dyspnea Scale (MMRC) and BCSS, along with daily life activity (CAT). The secondary outcomes that were measured were pulmonary function testing, arterial blood gas analysis, and hematologic examinations. Participants in both the IPV and HFCWO group had marked improvement in dyspnea and MMRC, the BCSS, and the CAT compared with the control group. IPV participants had an improvement in BCSS ($p = 0.001$) and CAT ($p = 0.02$) scores compared with HFCWO participants. Both IPV and HFCWO secondary outcomes improved compared with the control group. In the group comparison analysis of the IPV group and HFCWO group variables, there was marked improvement in the IPV group in TLC and TLC% ($p = 0.03$); residual volume (RV) and RV% ($p = 0.04$); and diffusing lung capacity monoxide, maximal inspiratory pressure, and maximal lung capacity ($p = 0.01$). The authors concluded that (1) both IPV and HFCWO can improve lung function, muscular strength, dyspnea, and overall health status and (2) IPV demonstrated better effectiveness in improving test results in small bronchial airways and alveolar ventilation (RV and diffusing lung capacity monoxide) and muscular strength (maximal inspiratory pressure and maximal lung capacity) as well as scores on daily life activity and health status assessment scales (BCSS and CAT) than HFCWO. A multicenter, larger population study, with measurement of primary and secondary outcomes over a longer term, is needed. Limitations of this study include the single-center design, small sample size, and short duration as well as a lack of masking or a sham procedure. Furthermore, the intervention was delivered by a physical therapist; therefore, these findings may not be generalizable to IPV used at home and without professional supervision or for conditions other than COPD.

Reychler et al. (2018) conducted a systematic review to summarize the physiological and clinical effects that are related to the use of IPV as an ACT in chronic obstructive airway diseases. Using predetermined criteria, a search was conducted in the PubMed, PEDro, and Scopus online databases. The outcomes of interest included immediate or prolonged physiological effects (e.g., gas exchange, cardiorespiratory parameters, lung function, mechanics) and clinical effects (e.g., symptoms, adverse effects, length of hospital stay). A total of 109 studies were identified, and after further evaluation, 12 studies were included in the review. Of those, one study evaluated individuals with bronchiectasis (n = 22), four studies evaluated individuals with cystic fibrosis (n = 78), and six studies (one study included phase 1 and 2 results) evaluated individuals with COPD (n = 178). In individuals with COPD, IPV improved gas exchange during exacerbation and reduced the hospital length of stay; however, IPV was no more beneficial than other ACTs when individuals were stable. Two studies reported complications or discomfort with IPV, and in another study, two individuals did not tolerate settings with a higher frequency of percussions (1.220 cm H_2O-350 c/min and 1.840 cm H_2O-350 c/min). In individuals with cystic fibrosis, cardiorespiratory parameters and lung function did not improve with IPV. One study reported mild hemoptysis, which was associated with a respiratory infection. In individuals with bronchiectasis, dyspnea and respiratory frequency improved after one session of IPV; however, there was no difference in sputum dry weight. In individuals with productive bronchiectasis, the immediate efficacy of IPV vs that of other ACTs did not differ. Minor adverse events (dry throat, nausea, and/or fatigue) were reported in 27% of individuals who were treated with both IPV and chest physical therapy. The authors concluded that the use of IPV as an ACT in chronic obstructive airway diseases is not supported by sufficiently strong evidence to recommend routine use in this population of individuals.

Clinical Practice Guidelines

American College of Chest Physicians (ACCP)

Hill et al. (2018) conducted a systematic review on airway clearance in bronchiectasis due to cystic fibrosis (CF) and other causes by using non-pharmacological methods, as recommended by international guidelines, to develop recommendations or suggestions to update the 2006 CHEST guideline on cough. The systematic search for evidence examined the following question: "Is there evidence of clinically important treatment effects for non-pharmacological therapies in cough treatment for patients with bronchiectasis?". The pPopulations selected were all patients with bronchiectasis due to CF cystic fibrosis or non–cystic fibrosisnon-CF bronchiectasis. The interventions that were explored were the non-pharmacological airway clearance therapies. The comparison populations included those who were receiving standard therapy and/or placebo. Clinically important outcomes that were explored were exacerbation rates, quality of life, hospitalizations, and mortality. In both cystic fibrosisCF and non–cystic fibrosisnon-CF bronchiectasis, there were systematic reviews and overviews of systematic reviews that were identified. Despite these findings, there were no large randomized controlled trials (RCTs) RCTs that explored the impact of airway clearance on exacerbation rates, quality of life, hospitalizations, or mortality. The authors concluded that there is insufficient evidence that any airway clearance techniqueACT is consistently more effective than any other for clinically important outcomes in cystic fibrosisCF bronchiectasis.

National Institute for Health and Care Excellence (NICE)

In a 2018 MedTech innovation briefing, NIC found no published guidelines on airway clearance in people with complex neurological needs.

In 2017, NICE published guidelines for cystic fibrosis diagnosis and management. The guideline recommendations regarding ACTs are as follows:

- Discuss the use of ACTs with people with cystic fibrosis, who do not have clinical evidence of lung disease, and their parents or carers (as appropriate). Provide them with training in ACTs and explain when to use them.
- Offer training in ACTs to people with cystic fibrosis, who have clinical evidence of lung disease, and their parents or carers (as appropriate).
- When choosing an ACT for people with cystic fibrosis:
  - Assess their ability to clear mucus from their lungs and offer an individualized plan to optimize this
  - Take account of their preferences and (if appropriate) those of their parents and carers
  - Take account of any factors that may influence adherence
- Regularly assess the effectiveness of ACTs and modify the technique or use a different one, if needed.
- Consider using NIV in people with cystic fibrosis who have moderate or severe lung disease and cannot clear their lungs using standard ACTs.

U.S. Food and Drug Administration (FDA)

This section is to be used for informational purposes only. FDA approval alone is not a basis for coverage.

High-Frequency Chest Wall Compression Devices

High-frequency chest wall compression devices are designed to promote airway clearance and improve bronchial drainage. They are indicated when external chest manipulation is the physician's treatment of choice to enhance mucus transport. Refer to the following website for more information (use product code BYI): http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfPMN/pmn.cfm. (Accessed October 14, 2025)

References

Hassan A, Huang S, Fitzsimons F, et al. Effects of intrapulmonary percussive ventilation in nonventilated patients who are critically ill on length of stay, oxygenation, and pulmonary complications: a randomized controlled trial. CHEST Critical Care, Volume 2, Issue 2, 100068.

Hassan A, Lai W, Alison J, et al. Effect of intrapulmonary percussive ventilation on intensive care unit length of stay, the incidence of pneumonia and gas exchange in critically ill patients: A systematic review. PLoS One. 2021 Jul 28;16(7):e0255005.

Hassan A, Milross M, Lai W, et al. Feasibility and safety of intrapulmonary percussive ventilation in spontaneously breathing, non-ventilated patients in critical care: A retrospective pilot study. J Intensive Care Soc. 2021 May;22(2):111-119.

Hassan A, Takacs S, Orde S, et al. Clinical application of intrapulmonary percussive ventilation: a scoping review. Hong Kong Physiother J. 2024 Jun;44(1):39-56.

Idaho Medicaid Provider Handbook. Durable Medical Equipment, Prosthetics, Orthotics, and Supplies. Chest Wall Oscillating Device. Available at: https://www.idmedicaid.com/Provider%20Guide/Provider%20Handbook.aspx. Accessed December 2, 2025.

Idaho Medicaid Provider Handbook. General Information and Requirements for Providers, Non-Covered and Excluded Services. Available at: https://www.idmedicaid.com/Provider%20Guide/Provider%20Handbook.aspx. Accessed December 2, 2025.

McIlwaine M, Button B, Nevitt SJ. Positive expiratory pressure physiotherapy for airway clearance in people with cystic fibrosis. Cochrane Database Syst Rev. 2019 Nov 27;2019(11):CD003147.

National Institute for Health and Care Excellence (NICE). Cystic fibrosis: diagnosis and management. NICE guideline NG78. Published date: October 2017.

National Institute for Health and Care Excellence (NICE). The Vest for delivering high-frequency chest wall oscillation in people with complex neurological needs. Medtech innovation briefing [MIB159] Published date: September 2018.

Policy History/Revision Information

Date	Summary of Changes

06/01/2026	**Coverage Rationale**
	Non–State-Specific Criteria
	• Updated language pertaining to medical necessity clinical coverage criteria for a **high-frequency chest wall oscillation (HFCWO) system**; replaced reference to the "InterQual® Client Defined, CP: Durable Medical Equipment, Secretion Clearance Devices (Custom) - UHG" with "InterQual® Client Defined, CP: Durable Medical Equipment, *Airway or* Secretion Clearance Devices (Custom) - UHG"
	Medical Records Documentation Used for Reviews
	• Added language to indicate:
	  ○ Benefit coverage for health services is determined by the federal, state, or contractual requirements, and applicable laws that may require coverage for a specific service
	  ○ Medical records documentation may be required to assess whether the member meets the clinical criteria for coverage but does not guarantee coverage of the service requested
	  ○ The patient's medical record must contain documentation that fully supports the medical necessity for the requested services
	  ○ This documentation includes but is not limited to relevant medical history, physical examination, and results of pertinent diagnostic tests or procedures
	  ○ Documentation supporting the medical necessity should be legible, maintained in the patient's medical record, and must be made available upon request
	Applicable Codes
	• Added ICD-10 diagnosis codes G35.A, G35.B0, G35.B1, G35.B2, G35.C0, G35.C1, G35.C2, G35.D, and G71.036
	• Removed ICD-10 diagnosis code G35
	• Added notation to indicate HCPCS code E0481 is not on the State of Idaho Medicaid Fee Schedule and therefore may not be covered by the State of Idaho Medicaid Program; for additional information on non-covered and excluded services, refer to the *Idaho Medicaid Provider Handbook, General Information, General Information and Requirements for Providers: Non-Covered and Excluded Services*
	Supporting Information
	• Updated *Clinical Evidence* and *References* sections to reflect the most current information
	• Archived previous policy version CS054ID.B

Instructions for Use

This Medical Policy provides assistance in interpreting UnitedHealthcare standard benefit plans. When deciding coverage, the federal, state or contractual requirements for benefit plan coverage must be referenced as the terms of the federal, state or contractual requirements for benefit plan coverage may differ from the standard benefit plan. In the event of a conflict, the federal, state or contractual requirements for benefit plan coverage govern. Before using this policy, check the federal, state or contractual requirements for benefit plan coverage. UnitedHealthcare reserves the right to modify its Policies and Guidelines as necessary. This Medical Policy is provided for informational purposes. It does not constitute medical advice.

UnitedHealthcare may also use tools developed by third parties, such as the InterQual® criteria, to assist us in administering health benefits. The UnitedHealthcare Medical Policies are intended to be used in connection with the independent professional medical judgment of a qualified health care provider and do not constitute the practice of medicine or medical advice.